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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/555,387

08/16/2006

Jenni Haapiainen

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04/06/2010

THE NATH LAW GROUP

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EXAMINER

O HERN, BRENT T

ART UNIT

PAPER NUMBER

1783

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/555,387	<b>Applicant(s)</b> HAAPIAINEN ET AL.	
	<b>Examiner</b> Brent T. O'Hern	<b>Art Unit</b> 1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,9-13 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,9-12 and 16-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claims***

1. Claims 1-2, 4-5, 9-13 and 16-19 are pending with claim 13 withdrawn and claims 16-19 new.

## **WITHDRAWN REJECTIONS**

2. All rejections of record in the Office action mailed 10/26/2009 have been withdrawn due to Applicant's amendments in the Paper filed 1/19/2010.

## **NEW OBJECTIONS**

### ***Abstract***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The Abstract is objected to for exceeding 150 words.

### ***Specification***

5. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

## **Arrangement of the Specification**

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As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The Specification is objected to for not having section headings, specifically the heading (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

Furthermore, the description of the Drawings at page 6 of the Specification is not brief.

7. A priority statement is missing from the first paragraph of the Specification.

#### **NEW REJECTIONS**

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

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**9.** Claims 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**10.** The phrase “[a] method of using the material as defined in claim 1, wherein the non-starch polysaccharides  $\beta$ -glucan or pentosan is comprised in a food or a fodder for improved solubility in the digestive tract” in claim 16 is vague and indefinite as independent claim 1 is directed to a method treating a vegetable material that takes on different forms during the process while claim 16 is directed to a method of using a material in claim 1. Thus, it is unclear which form of the material in claim 1 Applicant is referring to in claim 16. Claim 16 refers to the polysaccharides as “for improved digestibility in the digestive tract”. It is unclear what method of using and what material Applicant is referring to.

**11.** The phrase “[a] method of using the material as defined in claim 1, wherein the material provides for controlled viscosity increase” in claim 17 is vague and indefinite as independent claim 1 is directed to a method treating a vegetable material that takes on different forms during the process while claim 17 is directed to a method of using a material in claim 1. Thus, it is unclear which form of the material in claim 1 Applicant is referring to in claim 17. It is unclear what, if any, method of using step Applicant is referring to by the language “provides for controlled viscosity increase”.

***Claim Rejections - 35 USC § 103***

**12.** Claims 1-2, 4-5, 9-11 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camburn (US 5,552,175).

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Regarding claims 1-2 and 4-5 and 16-19, Camburn ('175) teaches a method of solubilising an food stuff containing  $\beta$ -glucan and/or pentosan (*See claims 1-8 and 12, col. 2, ll. 19-51, col. 2, l. 62 to col. 3, l. 16 and col. 7, ll. 4-11.*) where an alternative material is a milled barley grain (*See col. 5, ll. 33-36.*). A person having ordinary skill in the art knows that barley grain contains  $\beta$ -glucan and/or pentosan. Applicant acknowledges this in the Specification, including page 4, line 26+. The milled material has a particle size less than 200  $\mu\text{m}$  (*See col. 7, ll. 4-8. The claims do not set forth a minimum particle size.*). Camburn ('175) teaches that when the material is solubilised after milling the solubility is 55% by weight in water (*See col. 2, ll. 19-51.*). The mechanical energy input is from about 0.124 to about 0.16 k/Wh/Kg (*See claim 1, col. 7, l. 3 and col. 8, l. 65.*). The material has improved solubility of  $\beta$ -glucan or pentosan since milling the solid material reduces the particle size, thus, improving the solubility (*See claim 1, col. 5, ll. 33-36 and col. 7, ll. 4-11.*). Barley is known to inherently contain amylopectin (*See claim 1, col. 5, ll. 33-36 and col. 7, ll. 4-11.*). Camburn ('175) teaches that the material to be crushed contains amylopectin or a material rich in amylopectin mixed with another biological material containing non-starch polysaccharides, such as oat grains or their fractions (*See claim 1, col. 5, ll. 33-36 and col. 7, ll. 4-11.*). When the material is added to water it obviously has the capacity to generate viscosity as all if not all materials do. The claims do not state the viscosity of the mixture is increased or decreased when added to water. Camburn ('175) does not set forth all of the above specific parameters being attributable to a vegetable material formed from whole barley grain. However, a person having ordinary skill in the art would obviously interpret

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Camburn's ('175) process to be usable for barley grain as barley is an alternative grain as taught by Camburn ('175) (*See col. 5, ll. 33-36.*) and as discussed above these alternative grains have similar compositions including  $\beta$ -glucan and/or pentosan. A person having ordinary skill in the art knows that the amount of energy expended per unit of material is variable depending on the feed rate to the mill, moisture concentration and temperature of the material being milled. If the milling equipment is larger and run at capacity then the amount of energy used per unit of product tends to be less due to economies of scale. Applicant does not set forth any non obvious reason or unexpected results for operating the process at the claimed energy value. Therefore, it would have been obvious to a person having ordinary skill in the art to operate the process at the above parameters for barley in order to provide a material with the above particle size and having the desired solubility.

Regarding claim 9, Camburn ('175) teaches the mechanical energy is generated by the joint effect of heat, pressure and shearing forces (*See claims 1-8 and 12, col. 2, ll. 19-51, col. 2, l. 62 to col. 3, l. 16, col. 6, ll. 36-46 and col. 7, ll. 4-11.*).

Regarding claim 10, Camburn ('175) teaches the crushing being preformed by extrusion (*See claims 1-8 and 12, col. 2, ll. 19-51, col. 2, l. 62 to col. 3, l. 16 and col. 7, ll. 4-11.*).

Regarding claim 11, Camburn ('175) teaches that the material to be crushed is pre-treated to moisture in the range from 6 to 20% (*See col. 6, ll. 36-46.*).

**13.** Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camburn (US 5,552,175) in view of Lehtomaki et al. (US 5,106,640).

Camburn ('175) teaches the method discussed above, however, fails to expressly disclose that the material to be crushed is mixed with a greater amount of liquid medium and the mixture is homogenized under a pressure of 50 to 800 bar.

However, Lehtomaki ('640) teaches homogenizing material such as barley rapidly (*See col. 2, ll. 24-40.*) for the purpose of providing high yielding product (*See col. 2, ll. 24-40.*). Regarding the homogenizing pressure, it would have been obvious to one having ordinary skill in the art to adjust the amount of pressure to the above value for the intended application since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to homogenize Camburn's ('175) material as taught by Lehtomaki ('640) in order to provide high yielding product.

#### **ANSWERS TO APPLICANT'S ARGUMENTS**

**14.** In response to Applicant's arguments (*See p.6 of Applicant's Paper filed 1/19/2010.*) regarding the 35 USC 101 and 112 rejections, it is noted that the amendments overcome the rejections, thus, all said rejections have been withdrawn.

**15.** In response to Applicant's arguments (*See pp.6-9 of Applicant's Paper filed 1/19/2010.*) regarding the 35 USC 102/103 rejections, it is noted that the amendments overcome the rejections, thus, all previously rejections have been withdrawn.

**16.** In response to Applicant's arguments (*See p. 9 of Applicant's Paper filed 1/19/2010.*) regarding the 35 USC 103 rejections of claim 12, it is noted that Applicant does not set forth any further precise arguments beyond those discussed above.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent T. O'Hern whose telephone number is (571)272-6385. The examiner can normally be reached on Monday-Thursday, 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brent T O'Hern/  
Examiner, Art Unit 1783  
April 2, 2010